07-11-05

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PATENT

ATES PATENT AN	D TRADEMARK OFFICE
)	
) For:	MIMO WLAN SYSTEMS
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) Group No.	Unassigned
)) For:))))

INFORMATION DISCLOSURE STATEMENT

Mail Stop Amendment Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

Applicants submit herewith, in accordance with 37 CFR § 1.98, the patents, publications and other information listed on the enclosed Form PTO-1449.

CERTIFICATE OF MAILING/TRANSMISSION (37 CFR 1.8(a))

I hereby certify that this correspondence is, on the date shown below, being:

MAILING

deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: July 7, 2005

FACSIMILE

transmitted by facsimile to the Patent and Trademark Office.

Depositor's Name: Kate Lane

(type or print name)

Signature:

The references submitted herewith are those of which Applicants are aware, which they believe may be material to the examination of this application and, with respect to which there may be a duty to disclose in accordance with 37 CFR § 1.56. While the references identified may be material to the examination of this application pursuant to 37 CFR § 1.56, the citation of these references is not intended to constitute an admission that any reference referred to herein is prior art to the invention of this application, unless specifically designated as such. Additionally, the filing of this Information Disclosure Statement shall not be construed to mean that any search has been made or, that if made, such search was complete or exhaustive, or that no other material information as defined in 37 CFR § 1.56 exists.

In accordance with 37 CFR § 1.97(b)(3), this Information Disclosure Statement is being submitted before mailing of the first Office Action on the merits. Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and a copy of which is enclosed herewith.

A list of the references is set forth on Form PTO-1449, which is enclosed herewith, along with a copy of each cited foreign reference (copies of U.S. references are not enclosed). Applicants respectfully request that the Examiner return to Applicants a copy of the Form PTO-1449 indicating consideration of the references cited thereon.

Applicants do not believe that any fees are due. If, however, it is determined that fees are owed, Applicants hereby authorize that such fees be charged to Deposit Account No. 17-0026.

Respectfully submitted,

Dated: July 7, 2005

Dmitry R. Milikovsky Registration No. 41,999

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OIPE	C INFORM	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE MATION DISCLOSURE	ATTY. DOCKET NO. 020554	SERIAL NO. 10/693,419
)	STATEM (Use so	MENT BY APPLICANT everal sheets if necessary)	APPLICANT Walton et al.	
PARTA TRAC	DATE MAILED: Ju	uly 7, 2005	FILING DATE October 23, 2003	GROUP Unassigned
			-	

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		D	OCI	UMI	ENT	NUN	мве	R	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A1	6	3	5	1	4	9	9	02-26-02	PAULRAJ et al.			
	A2	6	3	6	3	2	6	7	03-26-02	LINDSKOG et al.			
	A3	5	9	8	2	3	2	7	11-09-01	VOOK et al.			
	A4	5	5	0	9	0	0	3	11-09-95	SNIJDERS et al.			
	A5	4	7	5	0	1	9	8	06-07-88	HARPER			

U.S. PATENT APPLICATION PUBLICATION DOCUMENTS

*EXAMINER INITIAL				P	UB	LIC	ATI(N N	NUM	1BE	R		PUB. DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	B1	2	0	0	2	/	1	5	4	7	0	5	10-24-02	AHMAD et al.			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL	Ref No								R	DATE	COUNTRY	NAME	CLASS	SUB CLASS
	C1	0	2	0	7	8	2	1	1	10-03-02	PCT	LING et al.		
	C2	1	2	0	7	6	3	5	EP	05-22-02	Europe	GOPALAKRISHNAN et al		
	C3	0	2	2	5	8	5	3	wo	03-28-02	PCT	GESBERT et al.		
	C4	1	1	7	0	8	7	9	EP	01-09-02	Europe	MIYOSHI		
	C5	0	1	7	6	1	1_	0	wo	10-11-01	PCT	WALLACE et al.		
	C6	0	7	5	5	0	9	0	EP	01-22-97	Europe	SMITH		
	C7	2	3	0	0	3	3	7	GB	10-30-96	UK	RAITH		
	C8	9	5	3	0	3	1	6	wo	11-09-95	PCT	SCHWENDEMAN et al.		

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Page, Etc.)

D1	"Broadband Radio Access Networks (BRAN); HIPERLAN Type 2; Data Link Control (DLC) Layer; Part 1: Basic Data Transport Functions," ETSI Standards, European Telecommunications
\$ I I	Standards Institute BR(V131): 1-88 (Dec. 2001)

EXAMINER	DATE CONSIDERED
1	

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE	111111100011211101	SERIAL NO.		
(REV. 7-80)	PATENT AND TRADEMARK OFFICE	020554	10/693,419		
INFORM	MATION DISCLOSURE				
	MENT BY APPLICANT	APPLICANT			
(Use s	everal sheets if necessary)	Walton et al.			
		FILING DATE	GROUP		
DATE MAILED: J	uly 7, 2005	October 23, 2003	Unassigned .		

	D2	CHEN and Wu, "Novel Space-Time Processing of DS/CDMA Multipath Signal," IEEE 49 th , Vehicular Technology Conference, Houston, Texas, May 16-20 (1999)
	D3	CHOI and MURCH, "MIMO Transmit Optimization for Wireless Communication Systems," Proceedings of the first IEEE International Workshops on Electronic Design, Piscataway, New Jersey, January 29-31 (2002)
	D4	HAUSTEIN et al., "Performance of MIMO Systems with Channel Inversion," IEEE 55 th , Vehicular Technology Conference, Birmingham, Alabama, May 6-9 (2002)
:	D5	HONG et al., "Robust Frequency Offset Estimation for Pilot Symbol Assisted Packet CDMA With MIMO Antenna Systems," <u>IEEE Communications Letters</u> 6(6): 262-264 (2002)
	D6	PAUTLER et al., "On Application of Multiple-Input Multiple-Output Antennas to CDMA Cellular Systems," IEEE 54 th , Vehicular Technology Conference Proceedings, Atlantic City, New Jersey, October 7-11 (2001)
	D7	THEON et al., "Improved Adaptive Downlink for OFDM/SDMA-based Wireless Networks," IEEE VTS 53 rd , Vehicular Technology Conference, Rhodes, Greece, May 6-9 (2001)
-	D8	ZELST et al., "Space Division Multiplexing (SDM) for OFDM systems," IEEE 51 st , Vehicular Technology Conference Proceedings, Tokyo, Japan, May 15-18 (2000)
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EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.